

IT IS CLAIMED:

1. A method of screening test compounds as candidates for treating or preventing ischemia-related cellular damage, comprising
subjecting a purified primary culture of at least 75% cardiac myocytes to an oxygen/glucose deprivation challenge sufficient to produce cell death in at least 25% of the cardiac myocytes when examined at a selected time after the challenge,
exposing said cells to one or more test compounds to be screened,
examining the cells at such selected time after challenge for the presence of cell death, and
selecting the test compound as a candidate for treating ischemia-related cellular damage if the percentage of dead cells in the test culture is substantially less than that of a control culture.
2. The method of claim 1, wherein said cardiac myocytes are at least 80% of said purified primary culture.
3. The method of claim 1, wherein said cardiac myocytes are at least 90% of said purified primary culture.
4. The method of claim 1, wherein said cardiac myocytes are at least 99% of said purified primary culture.
5. The method of claim 1, wherein said examining is for the presence of apoptotic cell death.
6. The method of claim 1, wherein said examining is for the presence of necrotic cell death.
7. The method of claim 1, wherein said examining is for the presence of non-apoptotic, non-necrotic cell death.

8. The method of claim 1, wherein the test compound is a calcium channel blocker.
9. The method of claim 1, wherein the test compound is an NMDA receptor antagonist.
10. The method of claim 1, wherein the test compound is a bis-benzimidazole.
11. The method of claim 1, wherein said ischemia-related cellular damage is neuronal ischemia.
12. The method of claim 13, wherein said ischemia-related cellular damage is neuronal cell damage in the central nervous system associated with cerebral ischemia.
13. The method of claim 1, wherein the primary culture cells are purified by immunopanning.